

**Type: Poster Presentation**

Final Abstract Number: 45.026

Session: Bacterial Infections

Date: Friday, June 15, 2012

Time: 12:45–14:15

Room: Poster &amp; Exhibition Area

**Cholera outbreak in village Haji Aijaz Solangi, District Naushahro Feroze, Sind, Pakistan, May 2011**A. Ghanghro<sup>1,\*</sup>, M.P. Jokhio<sup>2</sup>, L.A. Ghanghro<sup>3</sup><sup>1</sup> FELTP- alumni, Islamabad, sindh, Pakistan<sup>2</sup> DOH, Naushahro Feroze, sindh, Pakistan<sup>3</sup> Health, Karachi, Sindh, Pakistan

**Background:** On 9th May 2011 Pediatrician DHQ Naushahro Feroze reported about some patients of AWD at DHQ hospital with varying complaints of diarrhea, abdominal pain, vomiting, dehydration and fever. An investigation was carried out to identify the source and mode of spread of the disease.

**Methods:** Data was collected from the concerned hospital and the affected village was also visited. All individuals of any age passing more than three watery stools in 24 hours from 9th May, 2011 to 20th May, 2011 were included as cases. Controls were also taken from the same village matched with age and sex. 4 stool samples and 9 drinking water samples were randomly collected for laboratory analyses.

**Results:** A total of 24 individuals developed acute watery diarrhea manifested by abdominal pain (84%), vomiting (61%), Severe dehydration (38%) and fever (19%). Mean age was 8.5 years while 71% were 10 or less years of age. For the analysis of risk factors 24 cases and 24 controls were taken. Exposure to hand pumps close to toilets (used as drinking source) (OR=12.14, CI=2.56–63.93), eating habits as reuse of cooked food on alternate day on 8th May, 2011 (OR=4.86, CI=1.23–20.20) were the most significant factors associated with AWD outbreak. Of the four stool samples two were positive for *Vibrio Cholera* poly 01 serotype Ogawa. Three out of nine water samples were found unsafe for drinking. Hand pumps were installed close to latrines which caused sewerage water to stand openly in the houses.

**Conclusion:** Contamination of drinking water was the likely source of this outbreak. Health education campaigns and chlorination of water controlled the outbreak. Recommendations for proper sanitation system were shared with the health authorities and the local government committed for allocation of budget for sanitation and proper hand pumps in the village.

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**Biofilm production by *H. influenzae* (NT) from Mexican adult patients with COPD**P. Gomez de León<sup>1,\*</sup>, T. Santander<sup>1</sup>, F. Quinones Falconi<sup>2</sup>, E. Sada Diaz<sup>2</sup>, J. Diaz-Garcia<sup>1</sup><sup>1</sup> Faculty of Medicine, UNAM, Mexico, D.F., Mexico<sup>2</sup> National Institute of Respiratory Diseases, Mexico, Mexico

**Background:** *Haemophilus influenzae* non typeable (HiNT) is an important cause of respiratory infections in adults with chronic obstructive pulmonary disease (COPD) mainly during episodes of exacerbation. In Mexico is estimated a prevalence of 18.4% in 65 years and older adults. Lines of evidence suggest that biofilms formed by HiNT can play an important role in the pathogenesis of this disease. Our main objective was to characterize the distribution of the biofilm formation capacity of HiNT strains and to determine whether any possible correlation exists with the profile of sensitivity to nine antibiotics.

**Methods:** Forty HiNT strains from patients 60 years old with confirmed COPD were evaluated for their capacity of biofilm formation. These strains were donated by the National Institute of Respiratory Diseases in Mexico City (INER). The formation of biofilms *in vitro* was evaluated by using the violet crystal (1%) method. Strain HiNT 2019 and its mutant B Sia- (donated by Dr. Edward Swords) were included as positive controls. Antimicrobial sensitivity to nine antibiotics was determined by using the Kirby-Bauer method.

**Results:** Ninety percent of the HiNT tested strains formed biofilms. Characterizing them according to its capacity of forming biofilms the analysis revealed 4 groups, considering the OD values they were classified in: high (19.1% OD> 1.7), moderate (50% showed 0.862 - 1.7 OD), low (21.4% showed 0.48 -0.862 OD) and null (9.5% OD <0.48-0). Strains that showed moderate and/or low production of biofilm had an heterogeneous behavior with regard to the sensitivity to the nine tested antibiotics. HiNT strains unable to produce biofilm were resistant to two or more antibiotics. Seven out of the nine HiNT strains with high capacity of forming biofilm showed sensitivity for all these antibiotics. The higher sensitivity to beta-lactamic and quinolones was showed among strains of high and moderate categories.

**Conclusion:** *In vitro*, almost all HiNT strains were distributed among the biofilm-producing group. Biofilm formation abilities of HiNT showed no correlation with the antimicrobial sensitivity patterns.

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